بسم الله الرحمن الرحيم

Ain Shams University Information Network

جامعة عين شمس

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شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بالرسالة صفحات

لم ترد بالأصـــل

بعض الوثائق الأصلية تالفة

Effect Of Botulinum-A Toxin On Focal Hyperhidrosis

Thesis
Submitted For The Partial Fulfillment Of
Master Degree In Dermatology And Venereology

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2002

بسم الله الرحمن الرحيم

(قالوا سبحانك لا علم لنا إلا ما
علمتنا إنك أنت العليم الحكيم)

صدق الله العظيم
سورة البقرة آية ٣٢

ACKNOWLEDGMENT

Thanks **God** who allowed and helped me to accomplish this work.

I would like to express my sincere appreciation and deep gratitude to **Dr. Hanan M. El Kahky,** Assistant Professor of Dermatology and Venereology, Faculty of Medicine, Ain Shams University, for her helpful supervision and valuable instructions through this work.

My special thanks and appreciation for **Dr. Tarek Mahmoud Ali,** Lecturer of Dermatology and Venereology, Faculty of Medicine, Ain Shams University, for his kind supervision, great cooperation, sincere encouragement, and moral support that made the accomplishment of this work possible.

Finally, I am truly grateful to the patients who helped me to achieve this work.

Mohamed

List of Abbreviations:

α	Alpha
Ach	Acetyl choline
BTX	Botulinum toxin
°C	Degrees centigrade
c.c.	Cubic centimeter
C.D.C.	Center of disease control
Cl	Chloride
et al.	et alii (Latin) and other
etc.	et cetera (Latin) and so forth
FDA	U.S.A. Food and Drug Administration
Fig.	Figure
HCO_3	Bicarbonate
hr	Hour
i.e.	That is to say
K	Potassium
μ	Micron
mg	Milligram
Min.	Minute
mL	Milliliter
mm	Millimeter
mM	Millimole
mol. wt.	Molecular weight
MU	Mouse unite
Na	Sodium
NaCl	Sodium chloride
ng	Nanogram
NH_3	Ammonia
NH_4CL	Ammonium chloride
nl	Nanoliter
nm	Nanometer
%	Percent
UVR	Ultra violet rays
VIP	Vasoactive Intestinal Peptide

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INRODUCTION AND AIM OF THE WORK

Introduction

Hyperhidrosis is an excessive production of sweat above normal. It does not present a threat to health, but complaints usually arise from discomfort and social embarrassment **(Cage and Dobson, 1987).**

Hyperhidrosis may be a significant disability in that sweat drips from the hands onto the floor **(Herxheimer, 1958)**.

Poldine methosulphate, 1-4 % in alcohol, suppresses experimentally induced sweating, but unfortunately is less valuable on the palms, soles, and axillae (**Grice and Bettley, 1966**).

Other drugs act by impeding the delivery of sweat to the surface. Formalin 1% soaks have long been used for treatment of hyperhidrosis of the feet, but are unsuitable for the hands and axillae. Glutaraldehyde 10 % in a buffered solution has helped some patients but may cause allergic sensitization. Furthermore, it stains the skin, so that it is suitable only for the feet **(Juhlin and Hansson, 1968).**

For axillary hyperhidrosis the most commonly used topical applications are aluminum salts, which are the best, but may be irritant to the skin and damage clothes **(Jass, 1982)**.

One of the more satisfactory methods of controlling hyperhidrosis of the hands and feet is by iontophoresis, either using taps water or anticholinergic drugs such as glyco-edpyrronium bromide. Side effects are dry mouth, blurring of vision and it is time consuming **(Levit, 1968)**.

Atropine like drugs have been used to block the effect of acetylcholine on the sweat glands, but their side effects are often

more troublesome than the hyperhidrosis itself. These include dryness of the mouth and blurring of vision due to paralysis of accommodation, but more serious side effects as glaucoma, hyperthermia, and convulsions may occur **(Herxheimer, 1958)**.

Sympathectomy, when complete, causes anhidrosis **(Drott et. al, 1995).** However, sweating may return after a period of some years, due either to regeneration of sympathetic fibers or to fibers, which do not pass through the sympathetic ganglia **(Gillespie, 1961).**

Complications of sympathectomy include haemothorax, pneumothorax and Horner's syndrome. Other disadvantages are that the palms or soles may become excessively dry, and that all four limbs cannot be treated in this way because of the risk of severe compensatory hyperhidrosis on the body **(Drott et. al, 1995).**

Botulinum neurotoxin is produced by the gram-negative rod shaped anaerobic bacterium Clostridium botulinum **(Simpson, 1981)**.

Research has transformed Botulinum-A toxin from a dangerous and feared poison to an important drug for the improvement and occasional cure of conditions that were previously difficult to treat **(Moor, 1995).**

Botulinum toxin-A has a potent inhibitory effect on the cholinergically innervated sweat glands. Intracutaneous or subcutaneous injection of Botulinum-A toxin resulted in circular areas of complete anhidrosis **(Bushara et. al, 1996).**

Patients suffering from various types of focal hyperhidrosis were effectively treated with local intracutaneous or subcutaneous